



# Component 2: Three-dimensional Design Standard Mark – 48

	AO1	AO2	AO3	AO4	TOTAL
Mark	11	13	11	13	48
Level	4	5	4	5	
	Mostly competent and consistent ability	Just confident and assured ability	Mostly competent and consistent ability	Just confident and assured ability	

Keyword descriptors from the taxonomy:

Informed

Secure

Skilful

Cohesive

Purposeful

Engaged

Thoughtful



# Examiner comments

This Three-dimensional Design Component 2 submission of work consists of an A4 poly-folder, several maquettes and a final outcome of a shelving section. Images of the work selected here reflect the characteristics of work at the top of Performance Level 4, Competent and Consistent performance with a mark of 48/72.

The candidate responds to the externally set assignment theme of 'Lock' by exploring interlocking and modular design. They begin by looking at dynamic shapes within modern architecture, before considering furniture design. Their initial idea is to design a set of interlocking shelves, inspired by the Japanese technique of 'Tsugite'. Further analysis of contemporary shelving is considered and documented in a purposeful and cohesive way.

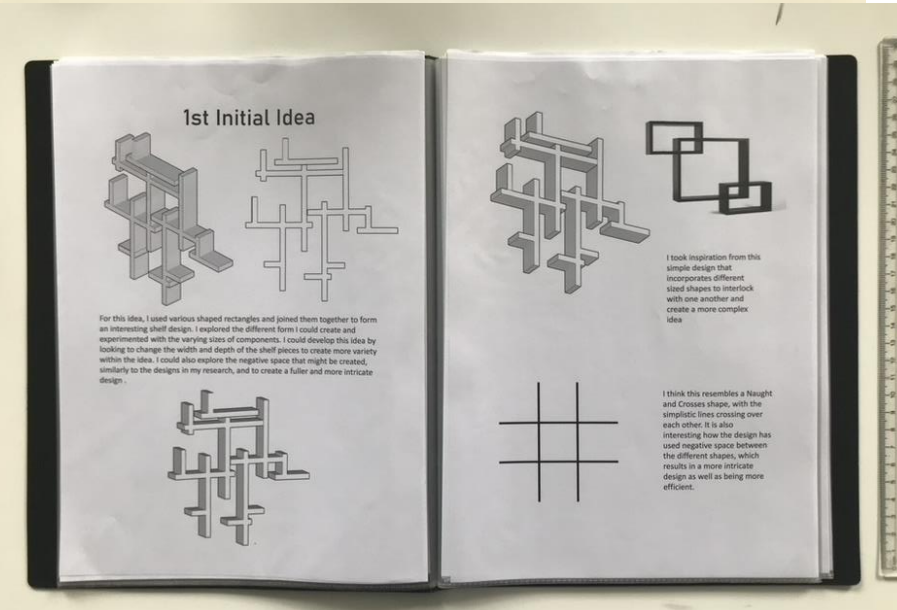
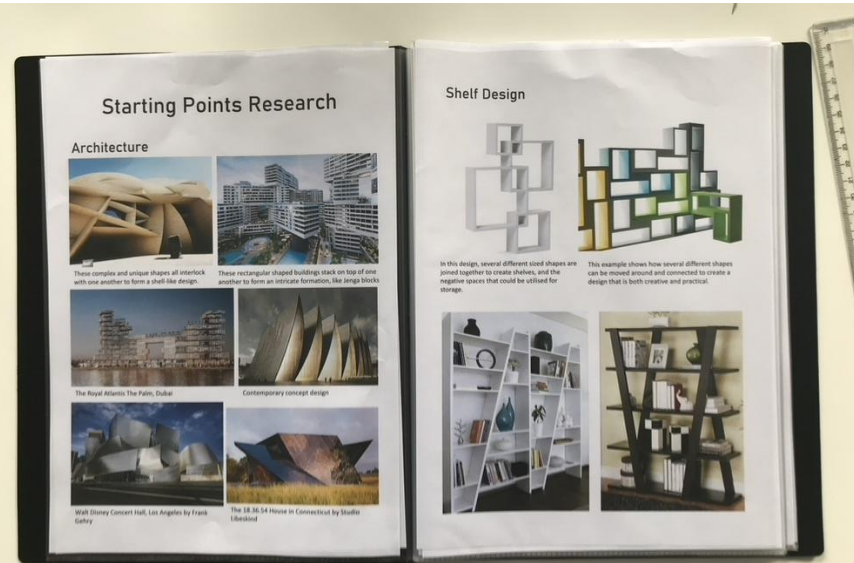
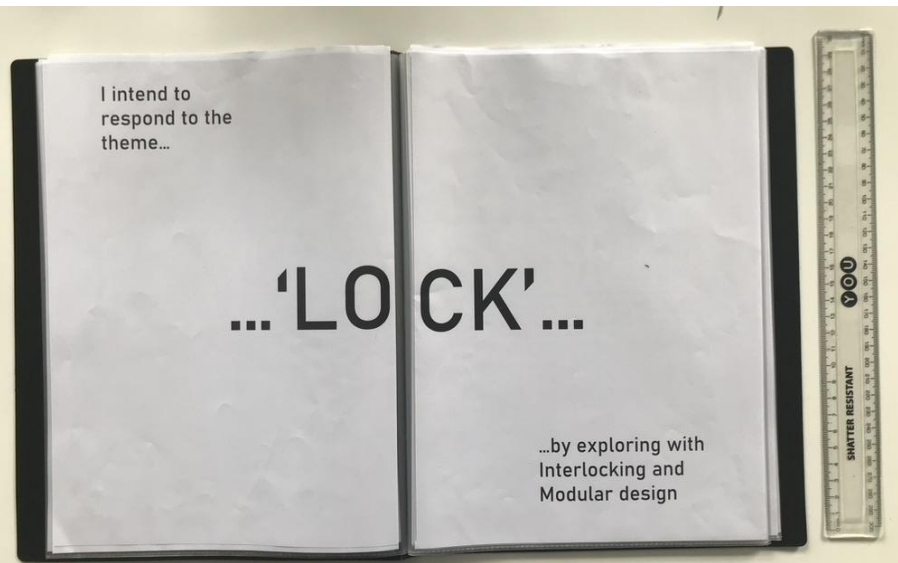
The candidate makes digital drawings of a design that creates the opposite of 'lock' – reflecting "creativity and freedom". The Interlace building in Singapore is referenced, with units of buildings that face differing directions. Another idea is to create a "complex and erratic" shape for a shelf, that interlocks. The candidate makes informed decisions about each design, refining their own ideas as the preparation work evolves.

The candidate makes a series of skilful and informed prototypes, the first using insulation foam board. They annotate using a secure design language: "My first prototype has incorporated the new form of slotting system which I found to work well when connecting the pieces. I also experimented with the two types of slotting system, and I believe that the hexagon shape works better, both functionally and aesthetically. I think carrying forward the hexagonal theme works well and keeps the design more consistent".

This refined prototype for an interlocking shelving system is made and constructed from white acrylic sheet, during the 10-hour period of sustained focus. The response reflects the mark of 13/18, moving into Performance Level 5, demonstrating a confident and assured understanding of visual language through the application of formal elements.

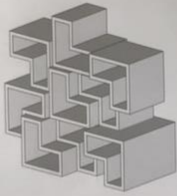
For the submission to move into Performance Level 5, the candidate could demonstrate greater evidence of risk-taking in the recording of observations and insights.



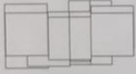




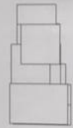
## 2nd Initial Idea



For this idea I wanted to create a design that reflected the ability to express creativity and freedom. This is a contrast to Lock, and I have done this by making a model that incorporates shapes that can be moved and put together to resemble one larger shelf. I used the same shape and its right-angled structure to piece together a shelf design that is both visually striking and also complex.



Top View



Side View



Front View

Another design I used as inspiration for my second initial idea was the Interlace in Singapore. This building is formed of several rectangular buildings stacked on top of each other, like a Jenga tower. Although it is a building and not a shelf, the idea resembles my model through the geometric elements, as well as how the different components are stacked on top of one another. While the Interlace appears stationary and inflexible, I wanted to incorporate the idea of being able to connect the units in different ways for both aesthetic and practical purposes.

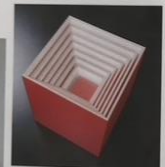


The Interlace, Singapore

## Extending Ideas through Research

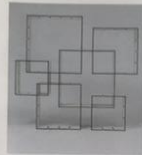


Box 1-7 by Pekka Kuivamäki



I really like the way this concept has been designed to fit together when being stored or packaged, condensed to something much smaller. I also like how the simplistic geometric shapes become randomly organised.

## Shelf Design



Konnex Linked by Slits

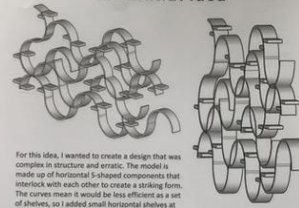


Puzzle Bookshelf

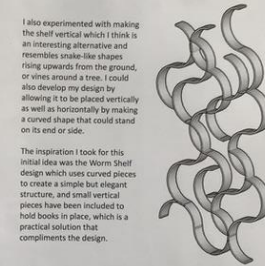
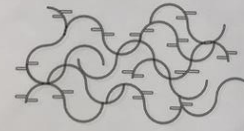


This design has created a simple interlocking system where several of the same shape all fit together like jigsaw pieces, hence the name 'Puzzle'.

## 3rd Initial Idea



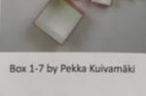
For this idea, I wanted to create a design that was complex in structure and erratic. The model is made up of horizontal S-shaped components that interlock with each other to create a striking form. The curves mean it would be less efficient as a set of shelves, so I added small horizontal shelves at various points to provide a practical use without impacting the overall design too much.



I also experimented with making the shelf vertical which I think is an interesting alternative and resembles snake-like shapes rising upwards from the ground, or vines around a tree. I could also develop my design by allowing it to be placed vertically as well as horizontally by making a curved shape that could stand on its end or side.



The inspiration I took for this initial idea was the Worm Shelf design which uses curved pieces to create a simple but elegant structure, and small vertical pieces have been included to hold books in place, which is a practical solution that complements the design.



## Extending ideas through models



In this design, I wanted to explore several different combinations whilst also using the theme of 'Lock'. I created the same shape multiple times and stacked them on top of each other to form distinctive shelving designs.

For this model I created a more symmetrical composition. I could design the shelf so that each piece could be easily taken apart so that the user could assemble as they wished.



I also experimented with different thicknesses of the pieces, which gives an interesting overlapping look from above, and creates variety. While the pieces lock the same when viewed from the front, they are different when viewed from the side or above.



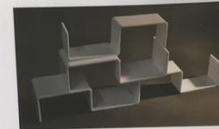
I continue to follow the theme of 'Lock' here with the pieces seemingly interlocking with each other. From the side, some of the arrangements look like they overlap each other, as if they are interconnected. I could further develop this idea by creating a system allowing the pieces to be joined using a slotting system.



Another way I could develop this idea is to create a more geometric form and by experimenting with different shapes.

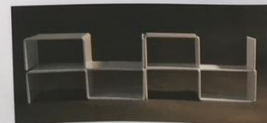


## Experimenting with form and materials



I have progressed my design with a more geometric appearance, which I think gives more structure and uniformity. I think this model can also work better as a shelf, with horizontal surfaces which will be easier to place items on.

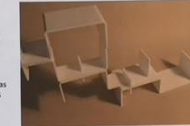
I wanted to vary my experimentation between having a more random and complex look, and one that was both organised and formal. I also want to create an interlocking system, where the pieces can slot into each other, like the Japanese technique of 'Tsugite'.



I have further developed my shelving idea by creating an interlocking system. I have done this by cutting slots in the side of the main pieces and using smaller pieces to connect them. This means different compositions are easily created, by simply removing the slotting pieces, and moving the components around.



I think these models have become more organised in structure. However, to develop it further I will explore a more complex interlocking system, using the same shape as the larger components to create uniformity.



## Analysing Product Design



The design I am going to use as my inspiration to develop my shelf project further is the Module 77 Interlocking shelves, by Quirico Ottin. The material used is plywood and the function of this product is shelving, using different interlocking pieces to assemble the shelf itself.

This product clearly resembles a beehive due to the repeating hexagonal shapes that join to create one larger object and composition. I also believe plywood, although man-made, gives it a more natural look.

This design differs from other shelves, through the way the units can be assembled. The slotting system allows different pieces to slot together, to extend the whole shelf in any direction. This is different as normally more conventional shelving units would be in a set position, however this allows creativity as the user can organize them in a way they want or need.



Example of a conventional shelving unit

The designer uses the formal elements of line, as well as negative space which I will develop using my interlocking pieces. The line is evident in the way the sides of the hexagons overlap with each other. The shape and space are the hexagons themselves, and the hollow design provides space in which the user can place items.



The edge of wooden panels comprising the hexagonal boxes makes a very geometric and linear composition. This linear structure changes as thickness, where the boxes overlap and lock into each other and this adds richness to the pattern and texture when compiling several boxes together and creating larger units.

To develop my own product, I am going to redesign my shelves with a more hexagonal design because it creates a more modern and intricate look. I am also thinking about using negative space in my final design, which will give more space to place items. I will carry on developing an interlocking system, either like the one I made previously, or a smaller, also hexagonal, shape that connects pieces together with a similar slotting system as the Module 77 shelves.

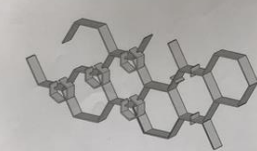
The product has been made by cleverly designing a simple hexagon piece, with slots on each corner on one side. This means that the individual pieces can slot together, and with several parts, it creates one large shelf product.

The user can interact with this product by arranging it in any way they wish, even possible as individual pieces, to suit their environment or requirement. I imagine this will have been designed for a younger target audience, because of the contemporary design and exciting designs that can be created.

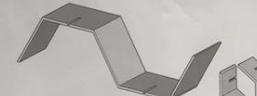
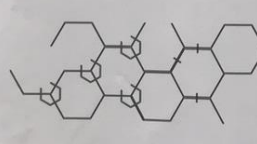
What I especially like about this product is how the individual parts fit together both smoothly and easily, and how it is unnoticeable that they interlock with one another.



## Further Development



To further develop my project, I decided to explore the hexagonal shape and because the result is very effective, I used a single shape, and connected a number of them together, forming a larger hexagon shape. I also appreciate the 'spiral' parts that are sticking out, which breaks up the shelf, and makes it look more playful and less structured. In this final development, I have included the single slit pieces to interlock together, however I will only use one type of interlock in my final design so as to not over-complicate the structure.



I created this design simply by using the two pieces (above) repeated to create an interesting and complex assortment. The slots in the pieces are used for the smaller hexagons to slide into, connecting the larger components together. I have done this to create negative space in the design, giving more space for the user to place items, and to keep the hexagon theme. I may also experiment with a differing color between the main and smaller pieces to create contrast and variety.

